

IN THE CLAIMS:

Please amend claim 1 as shown below, in which deleted terms are indicated with strikethrough and/or double brackets, and deleted terms are indicated with underlining.

Please cancel claims 7, 11-28, and 44-72 without prejudice, and without dedication or abandonment of the subject matter thereof. Also, please add new claims 73-78 as shown on the attached sheets.

1. (Currently amended) A composite structure comprising a structure made of at least one of a brittle ceramic and a brittle metalloid formed on a substrate surface, wherein the formed structure is polycrystalline and crystals forming the structure do not substantially exhibit crystal orientation, a boundary layer made of hyaline does not substantially exist on a boundary face between said crystals, and part of the formed structure is an anchor section biting into the substrate surface and wherein elements other than main elements forming the crystals do not segregate on the boundary face of the crystals forming the structure.

2. (Original) The composite structure according to claim 1, wherein the crystals forming the structure do not involve grain growth by heat.

3. (Previously presented) The composite structure according to claim 1, wherein the average crystallite size of the formed structure is 500 nm or less and the compactness thereof is 70% or more.

4. (Previously presented) The composite structure according to claim 1, wherein the average crystallite size of the formed structure is 100 nm or less and the compactness thereof is 95% or more.

5. (Previously presented) The composite structure according to claim 1, wherein the average

crystallite size of the formed structure is 50 nm or less and the compactness thereof is 99% or more.

6. (Original) The composite structure according to claim 1, wherein the aspect ratio of the crystals forming the structure is 2.0 or less.

7. Cancelled.

8. (Original) The composite structure according to claim 1, wherein there is a nonstoichiometric deficiency near the boundary face of the crystals forming the structure.

9. (Original) The composite structure according to claim 8, wherein the crystals are metallic oxides and the nonstoichiometric deficiency exhibits nonstoichiometry based on an oxygen deficiency.

10. (Previously presented) The composite structure according to claim 1, wherein the substrate is one of glass, metal, ceramics and an organic compound.

11-72. Cancelled.

73. (New) A composite structure comprising a structure made of at least one of a brittle ceramic and a brittle metalloid formed on a substrate surface, wherein the formed structure is polycrystalline and crystals forming the structure do not substantially exhibit crystal orientation, a boundary layer made of hyaline does not substantially exist on a boundary face between said crystals, and part of the formed structure is an anchor section biting into the substrate surface and wherein the average crystallite size of the formed structure is 50 nm or less and the compactness thereof is 99% or more.

74. (New) The composite structure according to claim 73, wherein the crystals forming the structure do not involve grain growth by heat.

75. (New)     The composite structure according to claim 73, wherein the aspect ratio of the crystals forming the structure is 2.0 or less.

76. (New)     The composite structure according to claim 73, wherein there is a nonstoichiometric deficiency near the boundary face of the crystals forming the structure.

77. (New)     The composite structure according to claim 76, wherein the crystals are metallic oxides and the nonstoichiometric deficiency exhibits nonstoichiometry based on an oxygen deficiency.

78. (Previously presented)     The composite structure according to claim 73, wherein the substrate is one of glass, metal, ceramics and an organic compound.